UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III



Environmental Sciences Center 701 Mapes Road Fort Meade, Maryland 20755-5350

DATE:

March 7, 2012

SUBJECT:

Region III Data QA Review

FROM:

Colleen Walling

Region III ESAT RPO (3EA20)

TO:

Rich Fetzer

Remedial Project Manager (3HS31)

Attached is the organic data validation report for the Dimock Residential Groundwater site (DAS:# R33917; SDG: #480-16217-1) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2763.

Attachment

TO: #0042

TDF: 03014 Data Validation

TO: #0042

TDF: #02085 Sample log-in processing

cc: Gene Nance (Techlaw)

Suddha Graves (Techlaw)

OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE

Printed on 100% recycled/recyclable paper with 100% post-consumer fiber and process chlorine free.

Customer Service Hotline: 1-800-438-2474

Lockheed Martin IS&GS – Civil Energy & Environment ESAT Region 3 US EPA Environmental Science Center

701 Mapes Road Ft. Meade, MD 20755-5350

Ex. 4 - CBI

Date:

March 07, 2012

Subject:

Organic Data Validation (M3 Level)

Case: R33917

Project: 480-16217-1

Site: Dimock

From:

Ex. 4 - CBI

Organic Data Reviewer

Ex. 4 - CBI

Senior Oversight Chemist

To:

Colleen Walling

ESAT Region 3 Project Officer

OVERVIEW

Third party Case R33917, Project 480-16217-1, consisted of thirteen (13) aqueous samples including two (2) field blanks analyzed for ethylene glycol. Samples were analyzed by TestAmerica Buffalo (TAL BUF) according to Test Methods for Evaluating Solid Waste SW-846 Method 8015B.

SUMMARY

Data were validated according to Region 3 Modifications to the National Functional Guidelines for Organic Data Review, Level M3 and is assigned the Superfund Data Validation Label S4VM (Stage_4_Validation_Manual). Areas of concern with respect to data usability are listed below.

MINOR PROBLEM

• The laboratory employed a four (4) point calibration curve for the analysis of the compounds requested; however, Method 8015B specifies the use of a five (5) point curve. No action was taken by the reviewer based on this deviation from the method.

NOTES

• Ethylene glycol failed precision criteria [Percent Difference (%D)] in a continuing calibration. No positive results were reported for this compound. Quantitation limits for this compound were not impacted since the %D did not exceed the 50% criteria.

DIM0272160 DIM0272161

- Reported recoveries and Relative Percent Differences (RPDs) in Laboratory Control Sample (LCS) analysis and Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample HW57 were within control limits.
- The calibration factors calculated by the reviewer were slightly different than those calculated by the laboratory. Differences in calibration factors were due to rounding by the laboratory.
- No positive results were reported for the samples in this sample set; therefore, no confirmation analyses were required.

<u>ATTACHMENTS</u>

Appendix A – Glossary of Data Qualifier Codes

Appendix B – Data Summary Form(s)

Appendix C – Chain of Custody Records

Appendix D – Laboratory Case Narrative

DCN: R33917_480-16217-1

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

OTHER CODES

- NJ = Qualitative identification questionable due to poor resolution.

 Presumptively present at approximate quantity.
- Q = No analytical result.

DIM0272160 DIM0272163

Appendix B
Data Summary Forms

DIM0272160 DIM0272164

Case #: R33917

Project: 480-16217-1

Site:

DIMOCK

Lab.:

TAL BUF

Number of Water Samples: 13

Sample Number:		FB17		FB18		HW03	ŧ	HW03z		HW07	
Sampling Location:		FB17		FB18		HW03		HW03		HW07	
Laboratory ID:		480-1621	7-1	480-1621	7-2	480-162	17-3	480-1621	7-4	480-162	17-5
Field QC:		Field Bla	nk	Field Bla	nk						
Matrix:		Water		Water		Water		Water		Water	
Units:		mg/L		mg/L		mg/L		mg/L		mg/L	
Date Sampled:		02/14/201	12	02/15/20	12	02/14/20	12	02/14/20	12	02/15/20	12
Time Sampled:		09:09		09:45		15:18		15:19		11:36	
Dilution Factor:		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Ethylene glycol 🕍 🍦	, 10	j P	in i	翻件			200 E 100 E				

Sample Number:		HW11		HW11-P		HW53		HW53-P		HW57	***************************************
Sampling Location:		HW11		HW11		HW53		HW53		HW57	
Laboratory ID:		480-1621	7-6	480-1621	7-7	480-1621	7-8	480-1621	7-9	480-1621	7-10
Matrix:		Water		Water		Water		Water	.5.	Water	
Units:		mg/L		mg/L	4.	mg/L		mg/L		mg/L	
Date Sampled:		02/13/201	2	02/13/201	12	02/13/201	12	02/13/20	12	02/14/20	12
Time Sampled:		15:05		15:22		14:57		15:17		10:07	i
Dilution Factor:		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
"Ethylene glycol "	10				H. 10. 1						

Sample Number:		HW57-P		HW58		HW59					
Sampling Location:		HW57		HW58		HW59					
Laboratory ID:		480-1621	7-11	480-1621	7-12	480-1621	7-13				
Matrix:		Water		Water		Water					
Units:		mg/L		mg/L		mg/L					
Date Sampled:		02/14/201	12	02/14/20	12	02/14/20	12			•	
Time Sampled:		10:31		14:47		10:33					
Dilution Factor:		1.0		1.0		1.0					
Volatile Compound	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Ethylene glycol	10			1 1 T			¥É.				

RL = Reporting Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (RL * Dilution Factor)

Revised 09/99

Appendix C Chain of Custody Records

DIM0272160 DIM0272166

Page 1 of 2

USEPA CLP Generic COC (LAB COPY)

DateShipped: 2/15/2012 CarrierName: FedEx

CHAIN OF CUSTODY RECORD

No: 3-021512-133332-0238

Lab: Test America DIM

Lab Contact:

Lab Phone: 716,504,9822

Project Code: TL01-11-12-001 . AirbillNo: 7980 6288 0337

Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	*Manager 1	Tag/Preservative/Bottles	Station Location	Collected	For Lab Use Only
F817	Aqueous/ Dan Jacobsen	Grab	EthyGlycol(7), EthyGlycol(7)	estilibr-u f*-ggrittaat*	5487 (-NA- / 40mlGlassVial), 5488 (-NA- / 40mlGlassVial) (2)	FB17	02/14/2012 09:09	
FB18	Aqueous/ Joel Munson	Grab	EthyGlycol(7), EthyGlycol(7)		5794 (-NA- / 40mlGlassVial), 5795 (-NA- / 40mlGlassVial) (2)	FB18	02/15/2012 09:45	ī.
HW03	Drinking Water/ David Johnson	Grab	EthyGlycol(7), EthyGlycol(7)	a-to-the continue the	5685 (-NA- / 40mlGlassVial), 5686 (-NA- / 40mlGlassVial) (2)	HW03	02/14/2012 15:18	
HW03z	Drinking Water/ David Johnson	Grab	EthyGlycol(7), EthyGlycol(7)		5719 (-NA- / 40mlGlassVial), 5720 (-NA- / 40mlGlassVial) (2)	HW03	02/14/2012 15:19	
HW07	Drinking Water/ David Johnson	Grab	EthyGlycol(7), EthyGlycol(7)	Tappe of Tappe	5760 (-NA- / 40mlGlassVial), 5761 (-NA- / 40mlGlassVial) (2)	HW07	02/15/2012 11:36	
HW11	Drinking Water/ Bryan Berna	Grab	EthyGlycol(7), EthyGlycol(7)		5386 (-NA- / 40mlGlassVial), 5387 (-NA- / 40mlGlassVial) (2)	HW11	02/13/2012 15:05	
HW11-P	Drinking Water/ Dan Jacobsen	Grab	EthyGlycol(7), EthyGlycol(7)	1	5438 (-NA- / 40mlGlassVial), 5439 (-NA- / 40mlGlassVial) (2)	HW11-P	02/13/2012 15:22	

		Shipment for Case Complete? N
Special Instructions:	,	Samples Transferred From Chain of Custody #
<u></u>	. "	
Analysis Key: EthyGlycol=17-Ethylene Glycol		1

Items/Reason	Relinquished by	Date	Received by	Date	Time ·	Items/Reason	Relinquished By	Date	Received by	Date	Time
. 4	Attacall	02/15/12	all	2-16-12	-pa						
***************************************	,				⊌ 4.		- J				
			¥				1994				
н .	• 114.		:			1					

Page 2 of 2 .

USEPA CLP Generic COC (LAB COPY)

DateShipped: 2/15/2012 CarrierName: FedEx

AirbillNo: 7980 6288 0337

CHAIN OF CUSTODY RECORD

Project Code: TL01-11-12-001

No: 3-021512-133332-0238

Lab: Test America DIM

Lab Contact:

Lab Phone: 716.504.9822

Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	January	Tag/Preservative/Bottles	Station Location	Collected	For Lab Use Only
HW53	Drinking Water/ David Johnson	Grab	EthyGlycol(7), EthyGlycol(7)	-distance and the	5353 (-NA- / 40mlGlassVial), 5354 (-NA- / 40mlGlassVial) (2)	HW53	02/13/2012 14:57	
HW53-P	Drinking Water/ Christina Dellaria	Grab	EthyGlycol(7), EthyGlycol(7)	- American Company of the	5413 (-NA- / 40mlGlassVial) 5414 (-NA- / 40mlGlassVial) (2)	HW53-P	02/13/2012 15:17	
HW57	Drinking Water/ Bryan Berna	Grab	EthyGlycol(7), EthyGlycol(7), EthyGlycol(7), EthyGlycol(7)	The contract of the contract o	5521 (-NA- / 40miGlassVial), 5522 (-NA- / 40miGlassVial), 5536 (-NA- / 40miGlassVial), 5537 (-NA- / 40miGlassVial) (4)	HW57	02/14/2012 10:07	-
HW57-P	Drinking Water/ Dan Jacobsen	Grab	EthyGlycol(7), EthyGlycol(7)	Market Cines	5569 (-NA- / 40mlGlassVial), 5570 (-NA- / 40mlGlassVial) (2)	HW57-P	02/14/2012 10:31	
HW58	Drinking Water/ Bryan Berna	Grab	EthyGlycol(7), EthyGlycol(7)	The second second	5651 (-NA- / 40mlGlassVial), 5652 (-NA- / 40mlGlassVial) (2)	HW58	02/14/2012 14:47	: 411
. HW59	Drinking Water/ David Johnson	Grab	EthyGlycol(7), EthyGlycol(7)	The same of the sa	5603 (-NA- / 40mlGlassVial), 5604 (-NA- / 40mlGlassVial) (2)	HW59	02/14/2012 10:33	
				-				
			<u></u>	Ì			 	

Sample(s) to be used for Lab QC: HW57

Samples Transferred From Chain of Custody #

Analysis Key: EthyGlycol=17-Ethylene Glycol

Items/Reason	Relinquished by	Date	Received by	Date	Time .	Items/Reason	Relinquished By	Date	Received by	Date	Time
14	N. hacael	02/15/12	Men	2-16-0	boso						
-		# · ·				•	·	ĝe:	èl		
					·				· 4	×	

41 # 1

Appendix D
Laboratory Case Narrative

DIM0272160 DIM0272169



ANALYTICAL REPORT

Job Number: 480-16217-1

Job Description: TechLaw Project No. R33917 (EG only)

For:

Techlaw, Inc 2208 Warwood Ave. Wheeling, WV 26003-6546

Attention: Mr. Gene Nance

Jacph V. giseonager

Approved for release. Joe Giacomazza Project Administrator 3/5/2012 11:52 AM

Designee for
Brian Fischer
Project Manager II
brian.fischer@testamericainc.com
03/05/2012

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project Manager who has signed this report.

TestAmerica Buffalo NELAC Certifications: CADPH 01169CA, FLDOH E87672, ILEPA 200003, KSDOH E-10187, LADEQ 30708, MDH 036-999-337, NHELAP 2973, NJDEP NY455, NHDOH 10026, ORELAP NY200003, PADEP 68-00281, TXCEQ T-104704412-10-1

TestAmerica Laboratories, Inc.
TestAmerica Buffalo 10 Hazelwood Drive, Amherst, NY 14228-2298

Tel (716) 691-2600 Fax (716) 691-7991 <u>www.testamericainc.com</u>



Job Narrative 480-16217-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC VOA

Method(s) 8015: The percent difference in the associated continuing calibration verification (CCV 480-51962/34) for Ethylene Glycol exceeded 20% on the ZB-5 column, indicating a high bias.

No analytical or quality issues were noted.

SAMPLE SUMMARY

Client: Techlaw, Inc

Job Number: 480-16217-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-16217-1	FB17	Water	02/14/2012 0909	02/16/2012 1000
480-16217-2	FB18	Water	02/15/2012 0945	02/16/2012 1000
480-16217-3	HW03	Water	02/14/2012 1518	02/16/2012 1000
480-16217-4	HW03Z	Water	02/14/2012 1519	02/16/2012 1000
480-16217-5	HW07	Water	02/15/2012 1136	02/16/2012 1000
480-16217-6	HW11	Water	02/13/2012 1505	02/16/2012 1000
480-16217-7	HW1:1-P	Water	02/13/2012 1522	02/16/2012 1000
480-16217-8	HW53	Water	02/13/2012 1457	02/16/2012 1000
480-16217-9	HW53-P	Water	02/13/2012 1517	02/16/2012 1000
480-16217-10	HW57	Water	02/14/2012 1007	02/16/2012 1000
480-16217-10MS	HW57	Water	02/14/2012 1007	02/16/2012 1000
480-16217-10MSD	HW57	Water	02/14/2012 1007	02/16/2012 1000
480-16217-11	HW57-P	Water	02/14/2012 1031	02/16/2012 1000
480-16217-12	HW58	Water	02/14/2012 1447	02/16/2012 1000
480-16217-13	HW59	Water	02/14/2012 1033	02/16/2012 1000

METHOD SUMMARY

Client: Techlaw, Inc

Job Number: 480-16217-1

Description	Lab Location	Method	Preparation Method
Matrix Water			
Glycols -Direct Injection (GC/FID)	TAL BUF	SW846 8015B	
8015 Direct Injection Prep (Aqueous)	TAL BUF		SW846 8015 Prep

Lab References:

TAL BUF = TestAmerica Buffalo

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Login Sample Receipt Checklist

Client: Techlaw, Inc.

Job Number: 480-16217-1

Login Number: 16217

List Number: 1 Creator: Janish, Carl List Source: TestAmerica Buffalo

The cooler's custody seal, if present, is intact. The cooler or samples do not appear to have been compromised or tampered with. Samples were received on ice. Cooler Temperature is acceptable. Cooler Temperature is recorded. Cool is present. Cool is present. Cool is present. Cool is filled out in ink and legible. Cool is filled out in ink and legible. Cool is filled out with all pertinent information. In the Field Sampler's name present on Cool? There are no discrepancies between the sample IDs on the containers and the Cool. Samples are received within Holding Time. Sample containers have legible labels. Containers are not broken or leaking. Samples collection date/times are provided. Sample bottles are completely filled. True Sample collection date/times are provided. Sample preservation Verified True Frese is sufficient vol. for all requested analyses, incl. any requested Wish/MSDs V/OA sample vials do not have headspace or bubble is <6mm (1/4") in True Itaneter. Itaneters in forcessary, staff have been informed of any short hold time or quick TAT free facessary, staff have been informed of any short hold time or quick TAT executed in the field filtration have been filtered in the field. Samples requiring field filtration have been filtered in the field. N/A	Question	Answer	Comment
The cooler or samples do not appear to have been compromised or lampered with. Samples were received on ics. Cooler Temperature is acceptable. Cooler Temperature is recorded. Cooler Temperature is recorded. True Cool is filled out in ink and legible. Cool is filled out with all pertinent information. Is the Field Sampler's name present on CoC? There are no discrepancies between the sample IDs on the containers and he CoC. Samples are received within Holding Time. Sample containers have legible labels. Containers are not broken or leaking. True Containers are not broken or leaking. True Appropriate sample collection datefairnes are provided. Appropriate sample containers are used. Sample Preservation Verified True Sample Preservation Verified True More Sample vials do not have headspace or bubble is <6mm (1/4") in Is recessary, staff have been informed of any short hold time or quick TAT leads Samples are projured. Frue Samples are not present. True Samples on the require splitting or compositing. False Samples Gompany provided. False Samples Gompany provided. False Samples Gompany provided. False Samples requiring field filtration have been filtered in the field.	Radioactivity either was not measured or, if measured, is at or below background	True	ı
tampered with. Samples were received on ice. Cooler Temperature is acceptable. Cooler Temperature is recorded. Cooler Temperature is recorded. Cooler Temperature is recorded. Cooler Temperature is recorded. True Cooler Spresent. Cooler	The cooler's custody seal, if present, is intact.	True	
Cooler Temperature is acceptable. Cooler Temperature is recorded. Cool is present. True Cool is filled out in ink and legible. Cool is filled out with all pertinent information. Is the Field Sampler's name present on CoC? There are no discrepancies between the sample IDs on the containers and the CoC. Samples are received within Holding Time. Samples containers have legible labels. Containers are not broken or leaking. True Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. Sample Preservation Verified There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs A/OA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. If necessary, staff have been informed of any short hold time or quick TAT meeds Autitiphasic samples are not present. Samples received within 48 hours of sampling. Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A Samples requiring field filtration have been filtered in the field.	The cooler or samples do not appear to have been compromised or tampered with.	True	
Cooler Temperature is recorded. COC is present. True COC is filled out in ink and legible. True COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True There are no discrepancies between the sample IDs on the containers and the COC. Samples are received within Holding Time. Samples containers have legible labels. Containers are not broken or leaking. Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. True Sample bottles are completely filled. True True True True True True True Sample Preservation Verified True	Samples were received on ice.	True	
COC is present. COC is filled out in ink and legible. True COC is filled out in ink and legible. True COC is filled out with all pertinent information. True True There are no discrepancies between the sample IDs on the containers and he COC. Samples are received within Holding Time. Samples are received within Holding Time. True Sample containers have legible labels. Containers are not broken or leaking. True Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. True Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs COA sample vials do not have headspace or bubble is <6mm (1/4") in If indicater. If necessary, staff have been informed of any short hold time or quick TAT teeds Samples are not present. True Samples do not require splitting or compositing. False Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	Cooler Temperature is acceptable.	True	
COC is filled out in ink and legible. True COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? There are no discrepancies between the sample IDs on the containers and the COC. There are no discrepancies between the sample IDs on the containers and the COC. True Samples are received within Holding Time. Sample containers have legible labels. Containers are not broken or leaking. True Sample collection date/limes are provided. Appropriate sample containers are used. True Sample bottles are completely filled. True Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs //OA sample vials do not have headspace or bubble is <6mm (1/4") in True timelects Multiphasic samples are not present. True Samples do not require splitting or compositing. True Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	Cooler Temperature is recorded.	True	
COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? There are no discrepancies between the sample IDs on the containers and the COC. Samples are received within Holding Time. Sample containers have legible labels. Containers are not broken or leaking. Containers are not broken or leaking. Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. Sample Preservation Verified True Sample Preservation Verified True MIS/MSDS A/OA sample vials do not have headspace or bubble is <6mm (1/4") in If necessary, staff have been informed of any short hold time or quick TAT seeds Autitiphasic samples are not present. Samples do not require splitting or compositing. Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A Samples requiring field filtration have been filtered in the field.	COC is present.	True	
Is the Field Sampler's name present on COC? True There are no discrepancies between the sample IDs on the containers and the COC. Samples are received within Holding Time. True Sample containers have legible labels. Containers are not broken or leaking. Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. Sample Preservation Verified True Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs //OA sample vials do not have headspace or bubble is <6mm (1/4") in It necessary, staff have been informed of any short hold time or quick TAT leeds Multiphasic samples are not present. True Samples do not require splitting or compositing. False Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	COC is filled out in ink and legible.	True	
There are no discrepancies between the sample IDs on the containers and the COC. Samples are received within Holding Time. Sample containers have legible labels. Containers are not broken or leaking. Containers are not broken or leaking. Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. Sample bottles are completely filled. Sample Preservation Verified True True MS/MSDs //OA sample vials do not have headspace or bubble is <6mm (1/4") in Irue finecessary, staff have been informed of any short hold time or quick TAT leeds Multiphasic samples are not present. Samples do not require splitting or compositing. Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	COC is filled out with all pertinent information.	True	
Appropriate sample containers have legible labels. Containers are not broken or leaking. True Containers are provided. Appropriate sample containers are used. Containers are used. True Completely filled. Completely filled.	Is the Field Sampler's name present on COC?	True	*d
Samples are received within Holding Time. Sample containers have legible labels. Containers are not broken or leaking. Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. Sample Preservation Verified True Sample Preservation Verified True The MS/MSDs //OA sample vials do not have headspace or bubble is <6mm (1/4") in True fi necessary, staff have been informed of any short hold time or quick TAT needs Multiphasic samples are not present. Samples do not require splitting or compositing. Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	There are no discrepancies between the sample IDs on the containers and the COC.	True	
Containers are not broken or leaking. Sample collection date/times are provided. Appropriate sample containers are used. Sample bottles are completely filled. Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs VOA sample vials do not have headspace or bubble is <6mm (1/4") in true tiameter. f necessary, staff have been informed of any short hold time or quick T.AT releads Multiphasic samples are not present. Samples do not require splitting or compositing. False Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	Samples are received within Holding Time.	True	
Sample collection date/times are provided. Appropriate sample containers are used. True Sample bottles are completely filled. True Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs /OA sample vials do not have headspace or bubble is <6mm (1/4") in finecessary, staff have been informed of any short hold time or quick TAT finecessary, staff have been informed of any short hold time or quick TAT finecessary, staff have been not present. Samples do not require splitting or compositing. True Samples do not require splitting or compositing. False Samples received within 48 hours of sampling. False Samples requiring field filtration have been filtered in the field. N/A	Sample containers have legible labels.	True	
Appropriate sample containers are used. Sample bottles are completely filled. True Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs //OA sample vials do not have headspace or bubble is <6mm (1/4") in finecessary, staff have been informed of any short hold time or quick TAT finecessary, staff have been informed of any short hold time or quick TAT finecessary are not present. Samples do not require splitting or compositing. True Samples do not require splitting or compositing. False Samples received within 48 hours of sampling. False Samples requiring field filtration have been filtered in the field. N/A	Containers are not broken or leaking.	True	
Sample bottles are completely filled. Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs /OA sample vials do not have headspace or bubble is <6mm (1/4") in true tiameter. If necessary, staff have been informed of any short hold time or quick TAT needs Multiphasic samples are not present. Samples do not require splitting or compositing. Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	Sample collection date/times are provided.	True	
Sample Preservation Verified True There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs /OA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. If necessary, staff have been informed of any short hold time or quick TAT Includeds Multiphasic samples are not present. Includes any short hold time or quick TAT True Samples do not require splitting or compositing. True Sampling Company provided. False Samples received within 48 hours of sampling. False Samples requiring field filtration have been filtered in the field. N/A	Appropriate sample containers are used.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs /OA sample vials do not have headspace or bubble is <6mm (1/4") in True diameter. If necessary, staff have been informed of any short hold time or quick TAT true needs Multiphasic samples are not present. True Gamples do not require splitting or compositing. True Gampling Company provided. Faise Gamples received within 48 hours of sampling. False Gamples requiring field filtration have been filtered in the field. N/A	Sample bottles are completely filled.	True	
MS/MSDs //OA sample vials do not have headspace or bubble is <6mm (1/4") in True diameter. f necessary, staff have been informed of any short hold time or quick TAT True needs //Ultiphasic samples are not present. //Samples do not require splitting or compositing. //Samples received within 48 hours of sampling. //Samples requiring field filtration have been filtered in the field. //OA samples True //True //Samples requiring field filtration have been filtered in the field. //OA samples True //True //Samples requiring field filtration have been filtered in the field. //OA samples requiring field filtration have been filtered in the field. //OA samples requiring field filtration have been filtered in the field. //OA samples requiring field filtration	Sample Preservation Verified	True	
diameter. If necessary, staff have been informed of any short hold time or quick TAT and the eds Multiphasic samples are not present. If necessary, staff have been informed of any short hold time or quick TAT and the eds Multiphasic samples are not present. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or compositing. If the samples do not require splitting or composition or composition. If the samples do not require splitting or composition or compositi	There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Adultiphasic samples are not present. Frue Samples do not require splitting or compositing. True Sampling Company provided. Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	2
Samples do not require splitting or compositing. False Samples received within 48 hours of sampling. False Samples requiring field filtration have been filtered in the field. N/A	If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Sampling Company provided. Samples received within 48 hours of sampling. Samples requiring field filtration have been filtered in the field. N/A	Multiphasic samples are not present.	True	
Samples requiring field filtration have been filtered in the field. N/A	Samples do not require splitting or compositing.	True	
Samples requiring field filtration have been filtered in the field. N/A	Sampling Company provided.	False	
samples required in the same state of the same s	Samples received within 48 hours of sampling.	False	
Chlorine Residual checked. N/A	Samples requiring field filtration have been filtered in the field.	N/A	
	Chlorine Residual checked.	N/A	

Attachment 2

DIM0272160 DIM0272175

Appendix A Form Is

DIM0272160 DIM0272176

Lab Name:	TestAmerica Buffalo	Job No.: 480-16217-1							
SDG No.:	· ·	•							
Client Samp	le ID: EB17	Lab Sample ID: 480-16217-1							
Matrix: Wat	ter	Lab File ID: PE09247.d							
Analysis Me	thod: 8015B	Date Collected: 02/14/2012 09:09							
Sample wt/v	ol: 0.5(mL)	Date Analyzed: 02/17/2012 15:46							
Soil Aliquo	t Vol:	Dilution Factor: 1							
Soil Extrac	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)							
% Moisture:	9	Level: (low/med) Low							
Analysis Ba	tch No.: 51962	Units: mg/L							
CAS NO.	COMPOUND NAME	RESULT Q RL MDL							
107-21-1	Ethylene glycol	ND 10 0.7							
CAS NO.	SURROGATE	%REC Q LIMITS							
110-63-4	1,4-Butanedio1	103 66-130							

Lab Name:	TestAmerica Buffalo	Job	Job No.: 480-16217-1				
SDG No.:							
Client Samp	le ID: FB18	Lab	Sample ID:	480-162	217-2		
Matrix: Wat	ter	Lab File ID: PE09248.d					
Analysis Me	thod: 8015B	Date Collected: 02/15/2012 09:45				5	
Sample wt/v	ol: 0.5(mL)	Date Analyzed: 02/17/2012 16:03					
Soil Aliquo	t Vol:	Dilution Factor: 1					
Soil Extrac	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)				0.25(mm)	
% Moisture:		Lev	el: (low/med) Low			
Analysis Ba	tch No.: 51962	Uni	ts: mg/L				
CAS NO.	COMPOUND NAME	MARIANANA MARIANANA MARIANANA	RESULT	Q	RL	MDL	
107-21-1	Ethylene glycol		ND		10	0.76	
CAS NO.	SURROGATE			%REC	Q	LIMITS	
110-63-4	1,4-Butanediol	***************************************		1	05	66-130	

Lab Name:	PestAmerica Buffalo	Job No.: 480-16217-1				
SDG No.:	Δ.					
Client Samp	le ID: HW03	Lab	Sample ID:	480-162	217-3	
Matrix: Wat	er	Lab File ID: PE09249.d				
Analysis Me	thod: 8015B	Date Collected: 02/14/2012 15:18				3
Sample wt/vo	ol: 0.5(mL)	Date Analyzed: 02/17/2012 16:20				
Soil Aliquo	t Vol:	Dilution Factor: 1				
Soil Extract		GC Column: ZB-5 ID: 0.25(mm)			0.25(mm)	
% Moisture:		Lev	el: (low/med) Low		
Analysis Bat	tch No.: 51962	Uni	ts: mg/L			
CAS NO.	COMPOUND NAME		RESULT	Q	RL	MDL
107-21-1	Ethylene glycol		ND		10	0.76
CAS NO.	SURROGATE	***************************************		%REC	Q	LIMITS
110-63-4	1,4-Butanediol			1	15	66-130

Lab Name: T	estAmerica Buffalo	Job	No.: 480-16	5217-1			
SDG No.:							
Client Sampl	e ID: HW03Z	Lab	Sample ID:	480-16	217-4	4	•
Matrix: Wate	er	Lab File ID: PE09250.d					
Analysis Met	hod: 8015B	Date Collected: 02/14/2012 15:19			9		
Sample wt/vo	ol: 0.5(mL)	Date Analyzed: 02/17/2012 16:38					
Soil Aliquot	Vol:	Dilution Factor: 1					
Soil Extract	. Vol.:	GC Column: ZB-5 ID: 0.25(mm)			0.25(mm)		
% Moisture:		Lev	el: (low/med)) Low			
Analysis Bat	ch No.: 51962	Units: mg/L					
<u></u>		*******************************	,		r		
CAS NO.	COMPOUND NAME		RESULT	Q		RL	MDL
107-21-1	Ethylene glycol		ND			10	0.76
r						· · · · · · · · · · · · · · · · · · ·	
CAS NO.	SURROGATE			%REC	7	Q	LIMITS
110-63-4	1,4-Butanediol			Time .	104		66-130

Lab Name: 1	TestAmerica Buffalo	Job	Job No.: 480-16217-1					
SDG No.:	118							
Client Samp	le ID: HW07	Lab	Lab Sample ID: 480-16217-5					
Matrix: Wat	ter	Lab	Lab File ID: PE09251.d					
Analysis Me	thod: 8015B	Date Collected: 02/15/2012 11:36						
Sample wt/v	ol: 0.5(mL)	Date Analyzed: 02/17/2012 16:55)		
Soil Aliquo	t Vol:	Dilution Factor: 1						
Soil Extract	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)				0.25(mm)		
% Moisture:		Lev	rel: (low/med) Low				
Analysis Bat	tch No.: 51962	Uni	ts: mg/L			R.		
CAS NO.	COMPOUND NAME		RESULT	Q	RL	MDL.		
107-21-1	Ethylene glycol		ND		10	0.76		
CAS NO.	SURROGATE			%REC	Q	LIMITS		
110-63-4	1,4-Butanediol			1	13	66-130		

Lab Name: 1	TestAmerica Buffalo	Job	No.: 480-16	217-1			
SDG No.:							
Client Samp	le ID: HW11	Lab	Sample ID:	480-16	217-	6	
Matrix: Wat	er	Lab File ID: PE09252.d					
Analysis Met	thod: 8015B	Date Collected: 02/13/2012 15:05					5
Sample wt/vo	ol: 0.5(mL)	Date Analyzed: 02/17/2012 17:12					
Soil Aliquot	t Vol:	Dilution Factor: 1					
Soil Extract	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)				0.25(mm)	
% .Moisture:		Lev	rel: (low/med)	Low			
Analysis Bat	cch No.: 51962	Uni	ts: mg/L				and the second particles of the second secon
CAS NO.	COMPOUND NAME		RESULT	Q	***************************************	RL	MDL
			NESSE1	ν			1700
107-21-1	Ethylene glycol		ND			10	0.76
CAS NO.	SURROGATE			%REC		Q	LIMITS
110-63-4	1,4-Butanediol				108		66-130

Lab Name: To	estAmerica Buffalo	Job No.: 480-16217-1					
SDG No.:							
Client Sampl	e ID: HW11-P	Lab Sample ID:	480-16217	-7			
Matrix: Wate	er	· Lab File ID: PE09253.d					
Analysis Met	hod: 8015B	Date Collected: 02/13/2012 15:22					
Sample wt/vo	1: 0.5(mL)	Date Analyzed: 02/17/2012 17:30					
Soil Aliquot	Vol:	Dilution Factor: 1					
Soil Extract	Vol.:	GC Column: ZB-5 ID: 0.25(mm)					
% Moisture:		Level: (low/med)	Low				
Analysis Bat	ch No.: 51962	Units: mg/L					
CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL		
107-21-1	Ethylene glycol	ND	and a second	10	0.76		
CAS NO.	SURROGATE		%REC	Q	LIMITS		
110-63-4	1,4-Butanediol		108		66-130		

Lab Name: 5	TestAmerica Buffalo	Job No.: 480-16	Job No.: 480-16217-1					
SDG No.:								
Client Samp	le ID: HW53	Lab Sample ID:	480-162	17-8				
Matrix: Wat	ter	Lab File ID: PE09254.d						
Analysis Me	thod: 8015B	Date Collected: 02/13/2012 14:57						
Sample wt/v	ol: 0.5(mL)	Date Analyzed: 02/17/2012 17:47						
Soil Aliquo	t Vol:	Dilution Factor: 1						
Soil Extrac	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)						
% Moisture:		Level: (low/med)	Low					
Analysis Ba	tch No.: 51962	Units: mg/L	Jnits: mg/L					
CAS NO.	COMPOUND NAME	RESULT	Q [‡]	RL	MDL			
107-21-1	Ethylene glycol	ND		10	0.76			
CAS NO.	SURROGATE	MATERIAL AND	%REC	Q	LIMITS			
110-63-4	1,4-Butanediol		1	06	66-130			

Lab Name: T	estAmerica Buffalo	Job	Job No.: 480-16217-1				
SDG No.:							
Client Sampl	Le ID: HW53-P	Lab	Sample ID:	480-162	217-9		
Matrix: Wat	er	Lab File ID: PE09256.d					
Analysis Met	thod: 8015B	Date Collected: 02/13/2012 15:17			.7		
Sample wt/vo	ol: 0.5(mL)	Date Analyzed: 02/17/2012 18:21					
Soil Aliquot	Vol:	Dilution Factor: 1					
Soil Extract	: Vol.:	GC Column: ZB-5 ID: 0.25(mm)			0.25(mm)		
% Moisture:		Lev	rel: (low/med)	Low		4 · · ·	
Analysis Bat	ch No.: 51962	Uni	ts: mg/L				
	<u> </u>		·		y		
CAS NO.	COMPOUND NAME		RESULT	Q	RL	MDL	
107-21-1	Ethylene glycol		ND		10	0.76	
		***************************************				-	
CAS NO.	. SURROGATE			%REC	Q	LIMITS	
110-63-4	1 4-Butanediol			1	103	66-130	

Lab Name: Te	estAmerica Buffalo	Job No.: 480-16217-1				
SDG No.:	.a					
Client Sample	e ID: HW57	Lab Sample ID:	480-1621	7-10		
Matrix: Wate	er	Lab File ID: PE09257.d				
Analysis Meth	hod: 8015B	Date Collected:	02/14/2	012 10:0	7	
Sample wt/vo	1: 0.5(mL)	Date Analyzed: 02/17/2012 18:39				
Soil Aliquot	Vol:	Dilution Factor: 1				
Soil Extract	Vol.:	GC Column: ZB-5 ID: 0.25(mm)			0.25(mm)	
% Moisture:		Level: (low/med)	Low			
Analysis Bato	ch No.: 51962	Units: mg/L				
	T	· · · · · · · · · · · · · · · · · · ·				
CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL	
107-21-1	Ethylene glycol	ND ND		10	0.76	
	NO.		·			
CAS NO.	SURROGATE		%REC	Q	LIMITS	
110-63-4	1,4-Butanediol	THE REST OF SHIPE	109	3	66-130	

Lab Name: 1	restAmerica Buffalo	Job No.: 480-16217-1				
SDG No.:						
Client Samp	le ID: HW57-P	Lab Sample ID: 480-16217-11				
Matrix: Wat	er	Lab File ID: PE09260.d				
Analysis Me	thod: 8015B	Date Collected: 02/14/2012 10:31				
Sample wt/v	ol: 0.5(mL)	Date Analyzed: 02/17/2012 19:31				
Soil Aliquo	t Vol:	Dilution Factor: 1				
Soil Extract	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)				
% Moisture:		Level: (low/med) Low				
Analysis Bat	tch No.: 51962	Units: mg/L				
CAS NO.	COMPOUND NAME	RESULT Q RL MDL				
107-21-1	Ethylene glycol	ND 10 0.7				
CAS NO.	SURROGATE	%REC Q LIMITS				
110-63-4	1,4-Butanediol	112 66-130				

Lab Name: 1	PestAmerica Buffalo	Job No.: 480-162	17-1	nranny y		
SDG No.:						
Client Samp	le ID: HW58	Lab Sample ID:	480-16217	-12		
Matrix: Wat	er	Lab File ID: PE09261.d				
Analysis Met	thod: 8015B	Date Collected: 02/14/2012 14:47				
Sample wt/vo	ol: 0.5(mL)	Date Analyzed: 02/17/2012 19:48				
Soil Aliquot	t Vol:	Dilution Factor: 1				
Soil Extract	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)				
% Moisture:	at .	Level: (low/med)	Low			
Analysis Bat	tch No.: 51962	Units: mg/L				
CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL	
107-21-1	Ethylene glycol	ND		10	0.76	
CAS NO.	SURROGATE		%REC	Q	LIMITS	
				2		
110-63-4	1,4-Butanediol		106	1	66-130	

Lab Name: T	estAmerica Buffalo	Job No.: 480-16217-1				
SDG No.:						
Client Sampl	le ID: HW59	Lab Samp	le ID:	480-162	217-13	
Matrix: Wat	er	Lab File ID: PE09262.d				
Analysis Met	thod: 8015B	Date Col.	lected:	02/14	/2012 10:3	3
Sample wt/vo	ol: 0.5(mL)	Date Analyzed: 02/17/2012 20:05				
Soil Aliquot	Vol:	Dilution	Factor:	1	:	
Soil Extract	Vol.:	GC Column: ZB-5 ID: 0.25(mm			0.25(mm)	
% Moisture:		Level: (low/med)	Low		x
Analysis Bat	ch No.: 51962	Units: m	ıg/L			
		······································				
CAS NO.	COMPOUND NAME	RE.	SULT	Q	RL	MDL
107-21-1	Ethylene glycol	Ì	ND		10	0.76
CAS NO.	SURROGATE			%REC	: <u>0</u>	LIMITS
110-63-4	1.4-Butanediol]	.07	66-130

Appendix B
Support Documentation

DIM0272160 DIM0272190

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Buffalo	Job No.: 480-16217-1
SDG No.:	
Instrument ID: PE-01	Start Date: 02/01/2012 10:57
Analysis Batch Number: 49964	End Date: 02/01/2012 19:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION	LAB FILE ID	COLUMN ID
*	#		FACTOR		
22222		02/01/2012 10:57	1		ZB-5 0.25(mm)
STD 480-49964/5 IC		02/01/2012 11:15	1	PE08205.d	ZB-5 0.25(mm)
STD 480-49964/6 IC		02/01/2012 11:32	1	PE08206.d	ZB-5 0.25(mm)
STD 480-49964/7 IC		02/01/2012 11:49	1	PE08207.d	ZB-5 0.25 (mm)
STD 480-49964/8 IC	The Additional Control of the Contro	02/01/2012 12:06	1	PE08208.d	ZB-5 0.25(mm)
ICV 480-49964/9		02/01/2012 12:24	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 13:43	1		ZB-5 0.25(mm)
22222		02/01/2012 14:11	1		2B-5 0.25(mm) .
ICV 480-49964/12		02/01/2012 14:48	1		ZB-5 0.25(mm)
CCV 480-49964/13		02/01/2012 15:52	1		ZB-5 0.25(mm)
22222		02/01/2012 16:09	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 16:26	1	MANAGEMENT OF CHAPTER STATES	ZB-5 0.25(mm)
ZZZZZ		02/01/2012 /16:44	1		ZB-5 0.25(mm)
ZZZZZ	,	02/01/2012 17:01	1		ZB-5 0.25(mm)
MDLV 480-49832/5-A		02/01/2012 17:18	1		ZB-5 0.25(mm)
MDLV 480-49832/6-A		02/01/2012 17:36	1		ZB-5 0.25(mm)
22222		02/01/2012 17:53	50	***************************************	ZB-5 0.25(mm)
***************************************	with the second	02/01/2012 18:10	1		ZB-5 0.25(mm)
CCV 480-49964/24		02/01/2012 19:02	1		ZB-5 0.25(mm)

8015B

FORM VI GC VOA INITIAL CALIBRATION DATA EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Buffalo	Job No.: 480-16217-1	Analy Batch No.: 49964
SDG No.:		
Instrument ID: PE-01	GC Column: ZB-5 ID: 0.25(mm)	Heated Purge: (Y/N) N
Calibration Start Date: 02/01/2012 10:57	Calibration End Date: 02/01/2012 12:06	Calibration ID: 5852

Calibration Files:

LEVEL:		LAB	SAMPLE ID:	LAB FILE ID:
Level	1	STD	480-49964/5	PE08205.d
Level	2	STD	480-49964/6	PE08206.d
Level	3	STD	480-49964/7	PE08207.d
Level	4	STD	480-49964/8	PE08208.d

ANALYTE		C	F		CURVE		COEFFICIENT	.:	#	MIN CF	%RSD	#	MAX	R^2	#	MIN R^2
THE RESERVE OF THE RE	LVL 1	LVL 2	LVL 3	LVL 4	TYPE	В	M1	M2					*RSD	OR COD		OR COD
2-Methoxyethanol	563452	596737	595761	513714	Ave		571859.509		T		6.2	TT	20.0		T	
2-Ethoxyethanol	751570	792686	787469	694526	Ave		760510.780				5.3		20.0		T	
Propylene glycol	617951	671784	682739	601502	Ave		643217.933				5.4		20.0			
Ethylene glycol	459250	498692	513964	454783	Ave		480568.287				5.3		20.0			
2,2'-Oxybisethanol	548106	538716	560304	500903	Ave		540870.511				4.4		20.0			
Triethylene Glycol	362706	305218	329041	307007	Ave		350933.990				17.0		20.0			
1,4-Butanediol	913252	977122	967058	853325	Ave		917742.130				5.9		20.0			

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Buffalo	Job No.: 480-16217-1
SDG No.:	
Instrument ID: PE-01	Start Date: 02/17/2012 08:17
Analysis Batch Number: 51962	End Date: 02/17/2012 20:23

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION	LAB FILE ID	COLUMN ID
CCV 480-51962/3		02/17/2012 08:17	1	y a a a a a a a a a a a a a a a a a a a	ZB-5 0.25(mm)
ZZZZZ		02/17/2012 08:57	1		ZB-5 0.25(mm)
22222		02/17/2012 09:14	1		ZB-5 0.25(mm)
22222		02/17/2012 09:59	1		ZB-5 0.25(mm)
22222		02/17/2012 10:17	1		ZB-5 0.25(mm)
22222		02/17/2012 10:34	1	**************************************	ZB-5 0.25(mm)
22222		02/17/2012 10:51	1		ZB-5 0.25(mm)
22222		02/17/2012 11:09	1		ZB-5 0.25(mm)
22222	A AAA	02/17/2012 11:26	1		ZB-5 0.25(mm)
ZZZZZ		02/17/2012 11:43	1		ZB-5 0.25(mm)
ZZZZZ		02/17/2012 12:01	1		ZB-5 0.25(mm)
CCV 480-51962/14		02/17/2012 12:18	1	MA. A DO DO DE COMO DE	ZB-5 0.25(mm)
22222		02/17/2012 12:35	1		ZB-5 0.25(mm)
22222	•	02/17/2012 12:53	1		ZB-5 0.25(mm)
22222	The state of the s	02/17/2012 13:10	1	The state of the s	ZB-5 0.25(mm)
22222		02/17/2012 13:27	1		ZB-5 0.25(mm)
ZZZZZ		02/17/2012 13:45	1		ZB-5 0.25(mm)
22222		02/17/2012 14:02	1		ZB-5 0.25(mm)
22222		02/17/2012 14:19	1		ZB-5 0.25(mm)
ZZZZZ		02/17/2012 14:37	1		ZB-5 0.25 (mm)
CCV 480-51962/23		02/17/2012 14:54	1	PE09244.d	ZB-5 0.25(mm)
MB 480-51945/1-A		02/17/2012 15:11	1	PE09245.d	ZB-5 0.25(mm)
LCS 480-51945/2-A		02/17/2012 15:29	1	PE09246.d	ZB-5 0.25(mm)
480-16217-1	FB17	02/17/2012 15:46	1	PE09247.d	ZB-5 0.25(mm)
480-16217-2	FB18	02/17/2012 16:03	1	PE09248.d	ZB-5 0.25(mm)
480-16217-3	нw03	02/17/2012 16:20	1	PE09249.d	ZB-5 0.25(mm)
480-16217-4	HW03Z	02/17/2012 16:38	1	PE09250.d	ZB-5 0.25(mm)
480-16217-5	HW07	02/17/2012 16:55	1	PE09251.d	ZB-5 0.25 (mm)
480-16217-6	HW11	02/17/2012 17:12	1	PE09252.d	ZB-5 0.25(mm)
480-16217-7	HW11-P	02/17/2012 17:30	1	PE09253.d	ZB-5 0.25(mm)
480-16217-8	HW53	02/17/2012 17:47	1	PE09254.d	'ZB-5 0.25(mm)
CCV 480-51962/34		02/17/2012 18:04	1	PE09255.d	ZB-5 0.25 (mm)
480-16217-9	HW53-P	02/17/2012 18:21	1	PE09256.d	ZB-5 0.25(mm)
480-16217-10	HW57	02/17/2012 18:39	1	PE09257.d	2B-5 0.25(mm)
480-16217-10 MS	HW57 MS	02/17/2012 18:56	1	PE09258.d	ZB-5 0.25(mm)
480-16217-10 MSD	HW57 MSD	02/17/2012 19:13	1	PE09259.d	ZB-5 0.25(mm)
480-16217-11	HW57-P	02/17/2012 19:31	1	PE09260.d	ZB-5 0.25(mm)
480-16217-12	HW58	02/17/2012 19:48	1	PE09261.d	ZB-5 0.25(mm)
480-16217-13	HW59	02/17/2012 20:05	1	PE09262.d	ZB-5 0.25(mm)
CCV 480-51962/42		02/17/2012 20:23	1	PE09263.d	ZB-5 0.25 (mm)

8015B

FORM VII GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Buffalo Job No.: 480-16217-1

SDG No.:

Lab Sample ID: CCV 480-51962/23 Calibration Date: 02/17/2012 14:54

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09244.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	571860	664765	······································	23.2	20.0	16.2	20.0
2-Ethoxyethanol	Ave	760511	886892		23.3	20.0	16.6	20.0
Propylene glycol	Ave	643218	742282		23.1	20.0	15.4	20.0
Ethylene glycol	Ave	480568	549536		22.9	20.0	14.4	20.0
2,21-Oxybisethanol	Ave	540871	606742	······································	22.4	20.0	12.2	20.0
Triethylene Glycol	Ave	350934	315363		18.0	20.0	-10.1	20.0
1,4-Butanediol	Ave	917742	944359		51.5	50.0	2.9	20.0

FORM VII GC VOA CONTINUING CALIBRATION DATA

 Lab Name:
 TestAmerica Buffalo
 Job No.:
 480-16217-1

 SDG No.:
 Lab Sample ID:
 CCV 480-51962/34
 Calibration Date:
 02/17/2012 18:04

 Instrument ID:
 PE-01
 Calib Start Date:
 02/01/2012 10:57

 GC Column:
 ZB-5
 ID:
 0.25 (mm)
 Calib End Date:
 02/01/2012 12:06

 Lab File ID:
 PE09255.d
 Conc. Units:
 ng/uL
 Heated Purge:
 (Y/N)
 N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALE AMOUNT	SPIKE AMOUNT	&D	MAX %D
2-Methoxyethanol	Ave	571860	717780	254557	25.1	20.0	25.5*	20.0
2-Ethoxyethanol	Ave	760511	975186	MARKET BY MY IVE BANK	25.6	20.0	28.2*	20.0
Propylene glycol	Ave	643218	816023		25.4	20.0	26.9*	20.0
Ethylene glycol	Ave	480568	607592		25.3	20.0	26.4*	20.0
2,2'-Oxybisethanol	Ave	540871	628010		23.2	20.0	16.1	20.0
Triethylene Glycol	Ave	350934	282432		16.1	20.0	-19.5	20.0
1,4-Butanediol	Ave	917742	1050612	**************************************	57.2	50.0	14.5	20.0

FORM VII GC VOA CONTINUING CALIBRATION DATA

 Lab Name:
 TestAmerica Buffalo
 Job No.:
 480-16217-1

 SDG No.:
 Lab Sample ID:
 CCV 480-51962/42
 Calibration Date:
 02/17/2012 20:23

 Instrument ID:
 PE-01
 Calib Start Date:
 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09263.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	571860	665354		23.3	20.0	16.3	20.0
2-Ethoxyethanol	Ave	760511	887579	·······	23.3	20.0	16.7	20.0
Propylene glycol	Ave	643218	738443		23.0	20.0	14.8	20.0
Ethylene glycol	Ave	480568	542614		22.6	20.0	12.9	20.0
2,2'-Oxybisethanol	Ave	540871	550061	grade	20.3	20.0	1.7	20.0
Triethylene Glycol	Ave	350934	227901		13.0	20.0	-35.1*	20.0
1,4-Butanediol	Ave	917742	939149		51.2	50.0	2.3	20.0

FORM III GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: <u>TestAmerica Buffalo</u>				Job No.: 480-16217-1					
SDG No.:									
Matrix: Wa	ater	Level:	Low	Lab	File ID:	PE09246.d			
Lab ID: LO	CS 480-51945/2-A		Clie		ent ID: _				
			SPIKE]	LCS	LCS	QC	
			ADDED		CONCE	NTRATION	ક	LIMITS	#
	COMPOUND		(mg/L)		(m	ıg/L)	REC	REC	
Ethylene	glycol		,	20.0		19.0	95	62-148	

 $\mbox{\#}$ Column to be used to flag recovery and RPD values FORM III $\mbox{8015B}$

Lab Name: T	estAmerica Buffalo	Job	No.: 480-1	5217-1							
SDG No.:											
Client Sampl	le ID:	Lab	Lab Sample ID: LCS 480-51945/2-A								
Matrix: Wat	er	Lab	File ID: P	E09246.	Ĺ						
Analysis Met	thod: 8015B	Dat	e Collected:								
Sample wt/vo	ol: 0.5(mL)	Dat	e Analyzed:	02/17/	2012	15:29					
Soil Aliquot	Vol:	Dil	Dilution Factor: 1								
Soil Extract	. Vol.:	GC	GC Column: ZB-5 ID: 0.25(mm)								
% Moisture:		Lev	Level: (low/med) Low								
Analysis Bat	cch No.: 51962	Uni	Units: mg/L								
r		r. 001100-0110-0110-0110-0	T				T				
CAS NO.	COMPOUND NAME		RESULT	Q]	RL	MDL				
107-21-1	Ethylene glycol		19.0			10	0.76				
	*										
CAS NO.	SURROGATE	SURROGATE			;	Q	LIMITS				
110-63-4	1.4-Butanediol		***************************************	1	00		66-130°				

Lab Name:	TestAmerica Buffalo	Job No.: 480-16217-1							
SDG No.:									
Client Samp	le ID: HW57 MS	Lab Sample ID: 480-16217-10 MS							
Matrix: Wat	cer	Lab File ID: PE09258.d							
Analysis Me	thod: 8015B	Date Collected: 02/14/2012 10:07							
Sample wt/v	ol: 0.5(mL)	Date Analyzed: 02/17/2012 18:56							
Soil Aliquo	t Vol:	Dilution Factor: 1							
Soil Extrac	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)							
% Moisture:		Level: (low/med) Low							
Analysis Ba	tch No.: 51962	Units: mg/L							
CAS NO.	COMPOUND NAME	RESULT Q RL MDL							
107-21-1	Ethylene glycol	20.2 10 0.7							
CAS NO.	SURROGATE	%REC Q LIMITS							
110-63-4	1,4-Butanediól	105 66-130							

FORM III GC VOA MATRIX SPIKE RECOVERY

 Lab Name:
 TestAmerica Buffalo
 Job No.: 480-16217-1

 SDG No.:
 Matrix:
 Water
 Level: Low
 Lab File ID: PE09258.d

 Lab ID:
 480-16217-10 MS
 Client ID: HW57 MS

	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS %	QC LIMITS	#
COMPOUND	(mg/L)	(mg/L)	(mg/L)	REC	REC	
Ethylene glycol	20.0	ND	20.2	101	50-150	

Column to be used to flag recovery and RPD values
FORM III 8015B

Lab Name: 1	CestAmerica Buffalo	Job No.: 480-16217-1						
SDG No.:	M							
Client Samp	le ID: HW57 MSD	Lab Sample ID: 480-16217-10 MSD						
Matrix: Wat	er .	Lab File ID; PE09259.d						
Analysis Met	thod: 8015B	Date Collected: 02/14/2012 10:07						
Sample wt/vo	ol: 0.5(mL)	Date Analyzed: 02/17/2012 19:13						
Soil Aliquot	t Vol:	Dilution Factor: 1						
Soil Extract	t Vol.:	GC Column: ZB-5 ID: 0.25(mm)						
% Moisture:		Level: (low/med) Low						
Analysis Bat	tch No.: 51962 .	Units: mg/L						
CAS NO.	COMPOUND NAME	" RESULT " Q RL MDL						
107-21-1	Ethylene glycol	20.2 10 0.76						
CAS NO.	SURROGATE	%REC Q LIMITS						
110-63-4	1,4-Butanediol	106 66-130						

FORM III GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name	: TestAmerica Buffa	alo		Job No.: 4	80-16	217-1					
SDG No.:											
Matrix:	Water	Level:	Low	Lab File II): <u>PE</u>	09259.	d				
Lab ID:	Lab ID: 480-16217-10 MSD				Client ID: HW57 MSD						
			•			· · · · · · · · · · · · · · · · · · ·					
		A STATE OF THE STA	SPIKE	MSD	MSD		QC L	IMITS			
ADDED			ADDED	CONCENTRATION	90	ક					
	COMPOUND		(mg/L)	(mg/L)	REC	RPD	RPD	REC			
Ethylen	e glycol		20.0	20.2	101	0	50	50-150			

 $\mbox{\#}$ Column to be used to flag recovery and RPD values FORM III $\mbox{8015B}$

FORM II GC VOA SURROGATE RECOVERY

Lab 1	Name:	TestAmerica Bu	offalo	Job 1	No.:	480-16217-	1
SDG 1	No.:						
Matr:	ix: W			Leve:	l: Lo	w	

ID: 0.25 (mm)

105

106

14BD1 # Client Sample ID Lab Sample ID FB17 480-16217-1 103 FB18 105 480-16217-2 HW03 480-16217-3 115 HW03Z 480-16217-4 104 480-16217-5 HW07 113 HW11 480-16217-6 108 HW11-P 480-16217-7 108 HW53 480-16217-8 106 HW53-P 480-16217-9 103 109 HW57 480-16217-10 HW57-P 480-16217-11 112 HW58 480-16217-12 106 107 H₩59 480-16217-13 MB 480-51945/1-A 101 LCS 100 480-51945/2-A

480-16217-10 MS

480-16217-10 MSD

GC Column (1): ZB-5

HW57 MS

HW57 MSD

QC LIMITS 66-130

14BD = 1,4-Butanediol

 $\ensuremath{\sharp}$ Column to be used to flag recovery values

FORM II 8015B

Page 35 of 124

Page 120 of 124

SDG No.:		No. of Addition and the contract of the contra	***************************************					
Batch Number:	51945		Ba	Batch Start Date:	02/17/12	06:57	Batch Analyst:	Neary, Mary Ann
Batch Method:	8015 Prep		Ba	Batch End Date:				
Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	GLY_CCV_1000 00014	GLY_SURR1000 00016	
MB 480-51945/1		8015 Prep, 80158		0.5 mL	1 mL		50 už	
LCS 480-51945/2	Transport and the state of the	8015 Prep, 80158		0.5 mL	1 mL	10 uL	20 nF	The same of the sa
480-16217-B-1	FB17	8015 Prep, 8	E	0.5 mL	1 mL		50 uL	AND THE REAL PROPERTY OF THE P
480-16217-B-2	FB18	8015 Prep,	E	0.5 mL	1 111		50 ut	MANAGEM AND THE CONTRACTOR OF
480-16217-A-3	HW03	8015 Prep, 8015B	E-i	0.5 mL	1 mL		50. uL	
480-16217-B-4	ТМОЗЕ	8015 Prep, 8015B	₽	0.5 mL	Tw T	T.	50 uL	HERE ALL CONTROL OF THE PROPERTY OF THE PROPER
480-16217-B-5	HW07	8015 Prep, 80158	E	0.5 mL	1 mT		50 uL	Middle de la companya de de desarro de la companya
480-16217-B-6	HW11	8015 Prep, 8015B	F	0.5 mL ··	1 mL		70 OS	
480-16217-B-7	HW11-P	8015 Prep, 8015B	F	0.5 mL	îm i		50 uL	
480-16217-B-8	HW53	8015 Prep, 80158	₽	0.5 mL	I ml.		7n 05	
480-16217-B-9	HW53-P	8015 Prep, 8015B	E⊣	0.5 mL	l mL		50 uL	
480-16217-B-10	HW57	8015 Prep, 8015B	Ę	0.5 mL	1 mt			
480-16217-A-10 MS	HW57	8015 Prep,	₽	0.5 mL	1 mL	10 uL	20 uL	
480-16217-A-10 MSD	HW57	8015 Prep,	T	0.5 mL	T w T	10 uL	50 uL	
480-16217-B-11	HW57-P	8015 Prep, 80158	Ħ	0.5 mL	1 m.C		7n 0S	
480-16217-8-12	HW58	8015 Prep, 80158	E	0.5 м.Г	1 mL		20 nF	
480-16217-B-13	HW59	8015 Prep,	F	0.5 mL	1 mL		50 uL	

Batch Notes de997

Basis Description

Basis

Total/NA

Methanol Lot Number

GC VOA BATCH WORKSHEET

8015B

FORM IV GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Buffalo	Job No.: 480-16217-1
SDG No.:	
Lab Sample ID: MB 480-51945/1-A	
Matrix: Water	Date Extracted: 02/17/2012 06:57
Lab File ID:(1) PE09245.d	Lab File ID:(2)
Date Analyzed:(1) 02/17/2012 15:11	Date Analyzed:(2)
Instrument ID:(1) PE-01	Instrument ID: (2)
GC Column:(1) ZB-5 ID: 0.25(mm)	GC Column: (2)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

		DATE	DATE.
CLIENT SAMPLE ID	LAB SAMPLE ID	ANALYZED 1	ANALYZED 2
	LCS 480-51945/2-A	02/17/2012 15:29	
FB17	480-16217-1	02/17/2012 15:46	
FB18	480-16217-2	02/17/2012 16:03	
HW03	480-16217-3	02/17/2012 16:20	
HW03Z	480-16217-4	02/17/2012 16:38	
HW07	480-16217-5	02/17/2012 16:55	
HW11	480-16217-6	02/17/2012 17:12	
HW11-P	480-16217-7	02/17/2012 17:30	
HW53	480-16217-8	02/17/2012 17:47	
HW53-P	480-16217-9	02/17/2012 18:21	
HW57	480-16217-10	02/17/2012 18:39	
HW57 MS	480-16217-10 MS	02/17/2012 18:56	
HW57 MSD	480-16217-10 MSD	02/17/2012 19:13	
HW57-P	480-16217-11	02/17/2012 19:31	
HW58	480-16217-12	02/17/2012 19:48	
HW59	480-16217-13	02/17/2012 20:05	

Lab Name: 1	TestAmerica Buffalo Job No.: 480-1				217-1					
SDG No.:										
Client Samp	le ID:	Lab	Lab Sample ID: MB 480-51945/1-A							
Matrix: Wat	er	Lab	Lab File ID: PE09245.d							
Analysis Me	thod: 8015B	Dat	e Collected:							
Sample wt/vo	ol: 0.5(mL)	Dat	e Analyzed:	02/17/2	2012 1	5:11				
Soil Aliquot	t Vol:	Dil	ution Factor	: 1						
Soil Extract	t Vol.:	GC	Column: ZB-5	5		ID: (0.25 (mm)			
% Moisture:		Lev	el: (low/med)) Low						
Analysis Batch No.: 51962			Units: mg/L							
CAS NO.	COMPOUND NAME		RESULT	Q	- RL	I	MDL			
107-21-1	Ethylene glycol		ND			10	0.76			
CAS NO.	SURROGATE			%REC		2	. LIMITS			
110-63-4	1,4-Butanediol			1	101		66-130			